

### **DETAILED ACTION**

1. Claims 1-39 have been examined.

#### ***Claim Objections***

2. Claims 28 and 30 are objected to because of the following informalities: the limitation of Claim 30 is the same as of Claim 28. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

5. Claims 1, 11, and 18 are directed to a method for constructing a Boolean expression and rule expression. Specifically, Claims 1, 11, 18 recite “identifying at least a first and second data assertion”, “adding at least one Boolean logical operator”, “order of evaluation”. However, it lacks a computer readable medium that stores the software such that when it is executed causes a computer to perform a specific set of method steps (MPEP 2106.01 section I.)

Claims 2-10, 12-17, 19-24 are rejected as each depends from Claims 1, 11, and 18 respectively.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4-7, 9-16, 18, 21-33, 36-39 are rejected under 35 U.S.C.103(a) as being unpatentable over Szabo (US. 6,326,962) in view of Rosenfeld et al. (US PGPub 20060271410.)

8. With respect to Claim 1, Szabo teaches a method of constructing a Boolean expression in a clinical setting, comprising:

identifying at least a first and a second data sets to add to the Boolean expression ('962; Col. 4, lines 2-5);

adding at least one Boolean logical operator to the Boolean expression ('962; Fig. 1A: Boolean logical operators; col./line 3/66-4/2)

visually depicting the first and second data sets and the Boolean logical operator in a hierarchal display ('962; Fig 2B.)

However, Szabo does not disclose clearly the data assertion. Rosenfeld et al. discloses further the data assertion as the sets of patient assessment data ('410; Para.

0011) and determining an order of evaluation for the first and second data assertions ('410; Para. 0008.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Rosenfeld et al. related to the order evaluation system with patient data assessment ('410; Abstract) and the teachings of Szabo related to graphical user interface of Boolean expression.

Claim 18 is rejected as the same reason with Claim 1.

9. With respect to Claim 4, the combined art teaches the method of claim 1. Szabo discloses further comprising allowing a user to modify the order of the first and the second data assertion with the use of an up button or a down button ('962; Figs 8A, 8A2, 8C.)

Claims 12, 22 are rejected as the same reason with claim 4.

10. With respect to Claim 5, the combined art teaches the method of claim 1.

Szabo discloses further comprising evaluating first either the first or the second data assertion that is displayed highest in the hierarchal display ('962; Col./line 21/60-22/10: Anot B, B not A and so on.)

Claims 13, 16, 21, and 36 are rejected as the same reason with claim 5.

11. With respect to Claim 6, the combined art teaches the method of claim 1. Rosenfeld et al. discloses further comprising linking the Boolean expression to a patient's electronic medical record ('410; Paras 0035-0036.)

Claim 14 is rejected as the same reason with claim 6.

12. With respect to Claim 7, the combined art teaches the method of claim 1.

Szabo discloses further comprising evaluating first either the first or the second data assertion that is indented furthest from the left in the hierarchal display ('962; Col./line 21/36-22/24: A in the left with hierarchal display; Fig 3A P/E,P/BOOK further indented from the left.)

Claim 24 is rejected as the same reason with claim 7.

13. With respect to Claim 9, the combined art teaches the method of claim 1.

Szabo further discloses wherein the step of selecting the first data assertion comprises selecting one of: a single element, a range, a list, or a programming code ('962; Col. 5, lines 17-35.)

14. With respect to Claim 10, the combined art teaches the method of claim 1.

Szabo further discloses wherein adding the at least one Boolean logical operator comprises adding one of the following Boolean logical operators: AND, OR, or NOT ('962; Fig 1A Basic operators.)

15. Claim 11 is rejected as the same reason with Claim 1.

However, the combined art does not disclose determining an action to be taken when the Boolean expression evaluates to true.

Elberhardt discloses further determining an action to be taken when the Boolean expression evaluates to true ('741; Col. 12, lines 11-21.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Szabo/Rosenfeld et al. related to said Boolean logic graphical user interface for data assessment with the teachings of Eberhardt related to Boolean expression.

Rosenfeld et al. further discloses limiting the group of users for which the action applies ('410; Para 0031.)

16. With respect to Claim 15, the combined art teaches the method of Claim 11.

Rosenfeld et al. further discloses comprising allowing a user to indent one or more of the data expression from the plurality of data expressions to represent different levels of

parenthetical abstraction in the Boolean expression ('962; Fig. 3A : representing one or more indented data.)

Claim 23 is rejected as the same reason with Claim 15.

17. With respect to 25-32, they are system claims which repeat the same limitations of claims 1-5, 7, 10, the corresponding method claims, as a collection of elements as opposed to a series of process steps. Since the teachings of Szabo/Rosenfeld et al. disclose the underlying process steps that constitute the methods of claims 1-5, 7, 10, it is respectfully submitted that they provide the underlying structural elements that perform the steps as well. As such, the limitations of claims 25-32 are rejected for the same reasons given above for claims 1-5, 7, 10.

18. With respect to Claim 33, Szabo teaches an article comprising a machine-accessible medium having stored thereon instructions that, when executed by a machine, cause the machine to:

identify a set of data assertions to be added to a clinical decision support rule expression ('962; Col. 4, lines 2-5);

select a plurality of data assertions from the set of data assertions to add to a rule expression grid, wherein the rule expression grid includes a plurality of rows with

one of the plurality of data assertions displayed in each row or the plurality of rows ('962; Figs. 3A-3B);

add one or more Boolean logical operators to the rule expression, wherein the one or more Boolean logical operators are added to the rows of the rule expression grid ('962; Fig. 1A: Boolean logical operators; col./line 3/66-4/2);

visually depict the rule expression grid as a hierarchal display of the rule expression ('962; Fig 2B.)

However, Szabo does not disclose determine an order of evaluation for the plurality of data assertions ('410; Para. 0008);

Rosenfeld et al. further discloses determine an order of evaluation for the plurality of data assertions ('410; Para. 0008);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Rosenfeld et al. related to the order evaluation system with patient data assessment ('410; Abstract) and the teachings of Szabo related to graphical user interface of Boolean expression.

19. With respect to Claim 37, the combined art teaches the article of claim 33. Szabo further discloses having further instructions that, when executed by the machine, cause the machine to allow a user to modify the order of the plurality of data assertions in the rule expression grid ('962; Col. 4, lines 15-32.)

20. With respect to Claim 38, the combined art teaches the article of claim 33.

Szabo discloses further having further instructions that, when executed by the machine, cause the machine to allow a user to indent one or more of the data expressions from the plurality of data expressions to represent different levels of parenthetical abstraction in the rule expression ('962; Fig. 10: item 112 for a plurality of data expression in parenthetical abstraction.)

21. With respect to Claim 39, the combined art according to the article of claim 33 does not disclose having further instructions that, when executed by the machine, cause the machine to evaluate the plurality of data assertions for the rows indented furthest from the left first, working outward through lesser indented rows, and evaluate multiple rows indented to the same level from top to bottom in the hierarchal display.

However, Official notice is taken that programming instruction executed by the machine in evaluating for data assertions in rows from top to bottom in hierarchal display has been known as a basis in computer's programming instruction.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Szabo/Rosenfeld et al. and the Official Notice for the computer programming instruction related to Boolean expression.



22. Claims 2, 3, 8, 17, 19-20, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szabo (US. 6,326,962) in view of Rosenfeld et al. (US PGPub 20060271410) and further in view of Eberhardt (US 5,659,741.)

23. With respect to Claim 2, the combined art according the method of claim 1 does not disclose comprising determining an action to be taken when the Boolean expression evaluates to true.

Eberhardt disclose further comprising determining an action to be taken when the Boolean expression evaluates to true ('741; Col. 12, lines 11-21.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Eberhardt related to the principles of Boolean logic (i. e. TRUE/FALSE) with the combined art Szabo/Rosenfeld et al. related to said Boolean expression for the medical data assertion.

Claims 19 and 34 are rejected as the same reason with Claim 2.

24. With respect to Claim 3, the combined art teaches the method of claim 2. Rosenfeld et al. discloses further comprising limiting the group of users for which the action applies ('410; Para 0031.)

Claims 20 and 35 are rejected as the same reason with Claim 3.

25. With respect to Claim 8, the combined art teaches the method of claim 1. Eberhardt disclose further wherein the step of selecting the first data assertion comprises selecting a condition that, when evaluated, is either true or false ('741; Col. 12, lines 11-21.)

Claim 17 is rejected as the same reason with claim 8.

### ***Conclusion***

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIEP NGUYEN whose telephone number is (571) 270-5211. The examiner can normally be reached on Monday through Friday 7:30AM-5:00PM.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry O'Connor can be reached on (571) 272-6787. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or (571) 272-1000.

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Examiner, Art Unit 3686  
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